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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,457	06/11/2001	Thomas Buchel	P/167-133	7346

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OSTROLENK FABER GERB & SOFFEN  
1180 AVENUE OF THE AMERICAS  
NEW YORK, NY 100368403

EXAMINER
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SERGEANT, RABON A

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/807,457

Applicant(s)

BUCHEL, THOMAS

Examiner

Rabon Sergent

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13, 16-18, 20, 22, 25-30, 32-38 and 40-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 16-18, 20, 22, 25-30, 32-38, and 40-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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1. Claims 1-13, 16-18, 20, 22, 25-30, 32-38, and 40-51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Given that the terms, “flexible” and “structurally rigid”, are subjective terminology and that the terms are not mutually exclusive since rigid structures may be flexible, it is unclear what degree of cure or reaction of the double bonds is denoted by step (c) of claims 1, 20, and 51.
2. Claims 1-13, 16-18, 20, 22, 25-30, 32-38, and 40-51 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for compositions derived from an isocyanate reactant and an unsaturated hydroxyl reactant, wherein one of the reactants is at least trifunctional with respect to either the isocyanate group or the hydroxyl group and the other reactant is at least polyfunctional (difunctional) with respect to the corresponding reactive group, does not reasonably provide enablement for compositions derived from only an isocyanate reactant or an unsaturated hydroxyl reactant that is at least trifunctional. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. As claimed, applicant’s claim limitation that at least one of the starting components is at least trifunctional fails to set forth the relationship between the reactants that will yield the required crosslinked structure. The “trifunctional” limitation fails to require that the trifunctionality be with respect to either isocyanate or hydroxyl groups. For example, it is unclear if dihydroxy functional monounsaturated compounds satisfy the limitation, since an unsaturated group is a functional group within polymeric systems. If so, then applicants have failed to provide adequate enablement for the production of crosslinked preforms from such reactants. Furthermore,

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applicant's claims fail to set forth the requirement that the non-trifunctional reactant must be at least difunctional. In order for a crosslinked structure to result, it is insufficient to require only one reactant to be polyfunctional. For example, as drafted, the isocyanate may be monofunctional when the other reactant is trifunctional; however, applicant has failed to provide enablement for the production of a crosslinked structure from a monofunctional reactant.

3. Claims 8, 9, and 42-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 8 requires that the two or more performs be brought into mutual contact; however, claim 9 states that a fiber material is inserted between the preforms. It is unclear if "mutual contact" requires that the performs be next to each other; if so, then claim 9 is not properly further limiting, since the fiber material will preclude the "mutual contact" of the performs.

4. Claim 32 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what limitation is conveyed by "flowable".

5. Claims 2, 22, and 25-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear why a dash appears after the dependent claim numeral.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 17 and 48-51 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 262488.

The reference discloses polymerizable compositions comprising reactants that read on those of applicant. Furthermore, since any polymeric composition applied to a surface constitutes a molded body, the position is taken that the disclosed compositions, when formed as dental fillings, meet applicant's claimed "moulded body" language. The process limitations are not considered to convey patentable distinction to the product.

8. Claims 1-13, 16-18, 20, 22, 25-30, 32-38, and 40-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verleg et al. ('832) or Smith ('402) or EP 269071, each in view of EP 262488.

Each of the primary references discloses the production of a polyurethane composition that once molded or shaped contains ethylenic unsaturation that may be reacted by such means as exposure to heat or radiation. Therefore, the references are considered to disclose applicant's concept of forming a preform that is subsequently cured through the reaction of the ethylenically unsaturated bonds within the polyurethane compositions.

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9. Though the polyurethane compositions of the primary references differ from those of applicant, the position is taken that applicant's composition was known at the time of invention, as evidenced by the teachings of EP 262488, and that the unsaturated compositions of the primary references and the secondary reference were sufficiently analogous in terms of composition and curing mechanism that one of ordinary skill in the art would have been motivated to process or mold the composition of EP 262488 in accordance with the teachings of the primary references, so as to arrive at the instant invention. In summation, the position is taken that applicant has simply applied known processing techniques to mold or shape a known composition; and in the absence of evidence to the contrary, it is not seen that such modification rises to the level of being unobvious.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

  
RABON SERGENT  
PRIMARY EXAMINER

R. Sergent

July 11, 2004